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10/528,222

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Scott Costa

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EXAMINER

STEPHENSON, DANIEL P

ART UNIT

PAPER NUMBER

3676

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.



## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 49-57, 61-65, 67, 68 and 70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Campbell (US 5,924,745) in view of Schummer et al. (US 4,605,449).

Campbell discloses an expandable tubular made from a steel alloy. It is plastically deformed downhole. After deformation it will retain tensile residual stresses. The ratio of the wall thickness to the outside diameter will depend on the size of the wellbore that the tubular is being placed into, but the ratio of the tubular of Campbell is approximately 12 to 22. It does not disclose what properties the steel has as far as toughness and chemical content. Schummer et al. discloses a steel alloy with a high toughness. It was tested at 35 J for the Charpy V impact test. The Charpy test depends highly on temperature, and it is believed that at the range of temperatures used during the test the steel achieved a Charpy energy of 90 ft-lbs. And an impact toughness of at least 6 joules. The weight percentage of Carbon is less than 0.08 (3:22-25). The weight percentage of Niobium can be 0.05%. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the steel alloy of Schummer et al with the tubular of Campbell. This would be done to provide a more resilient tubular depending on the conditions experienced downhole.

3. Claims 66 and 69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Campbell in view of Schummer et al. and Gil et al. (US 4,710,347). Campbell in view of Schummer et al. shows all the limitations of the claimed invention, except, it does not disclose that there is a small amount of Titanium in the alloy. Nor does it disclose that the alloy is strain aged. Gil et al. discloses a strained aged steel alloy that has a small amount of Titanium within it. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the small amount of Titanium and the aging technique of Gil et al. with the tubular of Campbell in view of Schummer et al. This would be done to give various alternative properties to the steel.

***Allowable Subject Matter***

4. Claims 58-60, and 71-73 are allowed.

***Response to Arguments***

5. Applicant's arguments filed 4/14/08 have been fully considered but they are not persuasive.

6. It is the assertion of the applicant that Campbell does not disclose that it is made from a steel alloy. The examiner respectfully traverses this assertion. The Campbell document references the WIPO document WO93/25800 when it references the slotted tubing material. In the WIPO document the expandable tubular is made from a number of steel alloys.

7. In response to applicant's argument that the Schummer document is nonanalogous art with respect to the Campbell document. It has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for

rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, both of the references describe steel products. It is common to look for other materials to make apparatus from when dealing with steel.

8. It is the assertion of the applicant that Schummer does not disclose an alloy with a charpy energy of at least 90 ft-lbs. The examiner respectfully traverses this assertion. Charpy determination is highly dependent upon temperature. So unless a reference discloses the exact charpy energy at the exact temperature listed within the limitations then some assumption need to be made with regards to the reference. The charpy energy of the reference is disclosed as being 35 J/cm<sup>2</sup> at -196° C. The Charpy energy of steel typically rises with an increase in temperature. Thus at a given temperature downhole the Charpy value of a steel with the value of 35 J/cm<sup>2</sup> at -196° C will be at least 90 ft-lbs.

9. It is the assertion of the applicant that the Campbell reference does not disclose that the expandable member is formed with a ratio between the outside diameter and the wall thickness of about 12-22. The examiner respectfully traverses this assertion. It is noted by the applicant that the drawings cannot be relied upon to teach specific dimensions since they are not to scale. However, it is noted by the examiner that the figures are not used to arrive at specific dimensions, only to give a general idea of the dimensions as presented within the claims. The examiner notes that the claims state that the ratio is *about* 12-22. The examiner then uses the drawings to demonstrate a ratio that is *about* 12-22.

10. It is the assertion of the applicant that the Campbell reference does not disclose that the expandable member has residual tensile stresses. The examiner respectfully traverses this

assertion. Any tubular that is expanded by an expansion device being run from top to bottom is going to inherently have residual tensile stresses present.

11. It is the assertion of the applicant that the Gil reference does not disclose that the expandable member is strain aged. The examiner respectfully traverses this assertion. There are numerous points in the Gil reference that refer to aging the steel.

***Conclusion***

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL P. STEPHENSON whose telephone number is (571)272-7035. The examiner can normally be reached on 8:30 - 5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer Gay can be reached on (571) 272-7029. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Art Unit: 3676

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/Jennifer H Gay/  
Supervisory Patent Examiner, Art Unit 3676

DPS